

SYSTEM AND METHOD FOR THERMAL MANAGEMENT

ABSTRACT

A system for the management of thermal transfer in a gas turbine engine includes a heat generating sub-system disposed in operable communication with the engine, a fuel source configured to supply a fuel, a fuel stabilization unit configured to receive the fuel from the fuel source and to provide the fuel to the engine, and a heat exchanger disposed in thermal communication with the fuel to effect the transfer of heat from the heat generating sub-system to the fuel. A method of managing thermal transfer in an aircraft includes removing oxygen from a stream of a fuel fed to an engine used to drive the aircraft, transferring heat from a heat generating sub-system of the aircraft to the fuel, and combusting the fuel. A system for the thermal management of an aircraft includes means for powering the aircraft, means for supplying a fuel to the means for powering the aircraft, means for deoxygenating the fuel, and means for effecting the transfer of heat between a heat generating sub-system of the aircraft and the fuel.